

# SEQUENCE LISTING

<110> Barry, Gerard  
Cheikh, Nordine  
Kishore, Ganesh

<120> Expression of Fructose 1,6 Bisphosphate Aldolase in Transgenic Plants

<130> 11899.0086.CNUS03 (MOBT:086-3)

<150> 10/164,204

<151> 2002-06-06

<150> 09/098,219

<151> 1998-06-16

<160> 6

<170> PatentIn version 3.2

<210> 1

<211> 1080

<212> DNA

<213> E. coli

<400> 1

```
atgtctaaga tttttgatit cgtaaaacct ggcgtaatca ctggtgatga cgtacagaaa      60
gttttccagg tagcaaaaga aaacaacttc gcactgccag cagtaaactg cgtcgggtact    120
gactccatca acgccgtact ggaaaccgct gctaaaagta aagcgccggt tatcgttcag     180
ttctccaacg gtggtgcttc ctttatcgct ggtaaaggcg tgaaatctga cgttccgcag     240
ggtgctgcta tcctggggcg gatctctggt gcgcatacag ttcaccagat ggctgaacat    300
tatggtgttc cggttatcct gcacactgac cactgcgcga agaaactgct gccgtggatc     360
gacggtctgt tggacgcggg tgaaaaaacac ttcgcagcta ccggttaagcc gctgttctct    420
tctcacatga tcgacctgtc tgaagaatct ctgcaagaga acatcgaaat ctgctctaaa     480
tacctggagc gcatgtccaa aatcggcatg actctggaaa tcgaactggg ttgcaccggt     540
ggtgaagaag acggcgtgga caacagccac atggacgctt ctgcactgta caccagccg     600
gaagacgttg attacgcata caccgaactg agcaaaatca gcccgcgttt caccatcgca     660
gcgtccttcg gtaacgtaca cgggtgttac aagccgggta acgtgggttct gactccgacc     720
atcctgcgtg attctcagga atatgtttcc aagaaacaca acctgccgca caacagcctg     780
aacttcgtat tccacggtgg ttccggttct actgctcagg aaatcaaaga ctccgtaagc     840
tacggcgtag taaaaatgaa catcgatacc gataccaat gggcaacctg ggaaggcggt     900
ctgaactact acaaagcgaa cgaagcttat ctgcagggtc agctgggtaa cccgaaaggc     960
gaagatcagc cgaacaagaa atactacgat ccgcgcgtat ggctgcgtgc cggtcagact    1020
```

tcgatgatcg ctcgtctgga gaaagcattc caggaactga acgcgatcga cgttctgtaa 1080

<210> 2  
<211> 359  
<212> PRT  
<213> E. coli

<400> 2

Met	Ser	Lys	Ile	Phe	Asp	Phe	Val	Lys	Pro	Gly	Val	Ile	Thr	Gly	Asp	
1				5					10					15		
Asp	Val	Gln	Lys	Val	Phe	Gln	Val	Ala	Lys	Glu	Asn	Asn	Phe	Ala	Leu	
			20					25					30			
Pro	Ala	Val	Asn	Cys	Val	Gly	Thr	Asp	Ser	Ile	Asn	Ala	Val	Leu	Glu	
			35				40					45				
Thr	Ala	Ala	Lys	Val	Lys	Ala	Pro	Val	Ile	Val	Gln	Phe	Ser	Asn	Gly	
	50					55					60					
Gly	Ala	Ser	Phe	Ile	Ala	Gly	Lys	Gly	Val	Lys	Ser	Asp	Val	Pro	Gln	
65					70					75					80	
Gly	Ala	Ala	Ile	Leu	Gly	Ala	Ile	Ser	Gly	Ala	His	His	Val	His	Gln	
				85					90					95		
Met	Ala	Glu	His	Tyr	Gly	Val	Pro	Val	Ile	Leu	His	Thr	Asp	His	Cys	
			100					105					110			
Ala	Lys	Lys	Leu	Leu	Pro	Trp	Ile	Asp	Gly	Leu	Leu	Asp	Ala	Gly	Glu	
		115					120						125			
Lys	His	Phe	Ala	Ala	Thr	Gly	Lys	Pro	Leu	Phe	Ser	Ser	His	Met	Ile	
	130					135						140				
Asp	Leu	Ser	Glu	Glu	Ser	Leu	Gln	Glu	Asn	Ile	Glu	Ile	Cys	Ser	Lys	
145					150					155					160	
Tyr	Leu	Glu	Arg	Met	Ser	Lys	Ile	Gly	Met	Thr	Leu	Glu	Ile	Glu	Leu	
				165					170					175		
Gly	Cys	Thr	Gly	Gly	Glu	Glu	Asp	Gly	Val	Asp	Asn	Ser	His	Met	Asp	
			180					185					190			
Ala	Ser	Ala	Leu	Tyr	Thr	Gln	Pro	Glu	Asp	Val	Asp	Tyr	Ala	Tyr	Thr	
		195					200					205				
Glu	Leu	Ser	Lys	Ile	Ser	Pro	Arg	Phe	Thr	Ile	Ala	Ala	Ser	Phe	Gly	
	210					215					220					
Asn	Val	His	Gly	Val	Tyr	Lys	Pro	Gly	Asn	Val	Val	Leu	Thr	Pro	Thr	
225					230					235					240	
Ile	Leu	Arg	Asp	Ser	Gln	Glu	Tyr	Val	Ser	Lys	Lys	His	Asn	Leu	Pro	
				245					250					255		
His	Asn	Ser	Leu	Asn	Phe	Val	Phe	His	Gly	Gly	Ser	Gly	Ser	Thr	Ala	
			260					265					270			

Gln Glu Ile Lys Asp Ser Val Ser Tyr Gly Val Val Lys Met Asn Ile  
 275 280 285

Asp Thr Asp Thr Gln Trp Ala Thr Trp Glu Gly Val Leu Asn Tyr Tyr  
 290 295 300

Lys Ala Asn Glu Ala Tyr Leu Gln Gly Gln Leu Gly Asn Pro Lys Gly  
 305 310 315 320

Glu Asp Gln Pro Asn Lys Lys Tyr Tyr Asp Pro Arg Val Trp Leu Arg  
 325 330 335

Ala Gly Gln Thr Ser Met Ile Ala Arg Leu Glu Lys Ala Phe Gln Glu  
 340 345 350

Leu Asn Ala Ile Asp Val Leu  
 355

<210> 3  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<400> 3  
 ggggccatgg ctaagatttt tgatttcgta 30

<210> 4  
 <211> 34  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<400> 4  
 ccccgagctc ttacagaacg tcgatcgcg ttag 34

<210> 5  
 <211> 10846  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> P-FMV/CTP1/fda/NOS3'

<400> 5  
 cgataagctt gatgtaattg gaggaagatc aaaattttca atccccattc ttcgattgct 60  
 tcaattgaag tttctccgat ggcgcaagtt agcagaatct gcaatgggtg gcagaaccca 120  
 tctcttatct ccaatctctc gaaatccagt caacgcaa atctcccttattc ggtttctctg 180  
 aagacgcagc agcatccacg agcttatccg atttcgctcg cgtggggatt gaagaagagt 240  
 gggatgacgt taattggctc tgagcttcgt cctcttaagg tcatgtcttc tgtttccacg 300

gcgtgcatgc ttcacggtgc aagcagccgt ccagcaactg ctcgtaagtc ctctgggtctt	360
tctggaaccg tccgtattcc aggtgacaag tctatctccc acaggtcctt catgtttgga	420
ggtctcgcta gcggtgaaac tcgtatcacc ggtcttttgg aaggtgaaga tgttatcaac	480
actggtaaag ctatgcaagc tatgggtgcc agaatccgta aggaaggtga tacttggatc	540
attgatggtg ttggtaacgg tggactcctt gctcctgagg ctccctctcg tttcggtaac	600
gctgcaactg gttgccgttt gactatgggt cttgttgggtg tttacgattt cgatagcact	660
ttcattgggtg acgcttctct cactaagcgt ccaatgggtc gtgtgttgaa cccacttcgc	720
gaaatgggtg tgcaggtgaa gtctgaagac ggtgatcgtc ttccagttac cttgctgga	780
ccaaagactc caacgccaat cacctacagg gtacctatgg cttccgctca agtgaagtcc	840
gctgttctgc ttgctggtct caacacccca ggtatcacca ctgttatcga gccaatcatg	900
actcgtgacc aactgaaaa gatgcttcaa ggttttgggtg ctaaccttac cgttgagact	960
gatgctgacg gtgtgcgtac catccgtctt gaaggctcgtg gtaagctcac cggccaagt	1020
attgatgttc caggtgatcc atcctctact gctttcccat tggttgctgc cttgcttgtt	1080
ccaggttccg acgtcaccat ccttaacgtt ttgatgaacc caaccgtac tggctctatc	1140
ttgactctgc aggaaatggg tgccgacatc gaagtgatca acccacgtct tgctgggtga	1200
gaagacgtgg ctgacttgcg tgttcgttct tctactttga aggggtgttac tgttccagaa	1260
gaccgtgctc cttctatgat cgacgagtat ccaattctcg ctgttgccagc tgcattcgct	1320
gaaggtgcta ccgttatgaa cggtttggaa gaactccgtg ttaaggaaaag cgaccgtctt	1380
tctgctgtcg caaacggtct caagctcaac ggtgttgatt gcgatgaagg tgagacttct	1440
ctcgtcgtgc gtggtcgtcc tgacggtaag ggtctcggta acgcttctgg agcagctgtc	1500
gctaccaccc tcgatcaccg tatcgctatg agcttcctcg ttatgggtct cgtttctgaa	1560
aaccctgtta ctgttgatga tgctactatg atcgctacta gcttcccaga gttcatggat	1620
ttgatggctg gtcttggagc taagatcgaa ctctccgaca ctaaggctgc ttgatgagct	1680
caagaattcg agctcggtag cggatccagc tttcgttcgt atcatcgggt tcgacaacgt	1740
tcgtcaagtt caatgcatca gtttcattgc gcacacacca gaatcctact gagttcgagt	1800
attatggcat tgggaaaact gtttttcttg taccatttgt tgtgcttgta atttactgtg	1860
ttttttattc ggttttcgt atcgaactgt gaaatggaaa tggatggaga agagttaatg	1920
aatgatatgg tccttttgtt cattctcaaa ttaatattat ttgttttttc tcttatttgt	1980
tgtgtgttgaa atttgaaatt ataagagata tgcaaacatt ttgttttgag taaaaatgtg	2040
tcaaatacgtg gcctctaatt accgaagtta atatgaggag taaaacactt gtagttgtac	2100

cattatgctt attcactagg caacaaatat attttcagac ctagaaaagc tgcaaagtgt	2160
actgaataca agtatgtcct cttgtgtttt agacatttat gaactttcct ttatgtaatt	2220
ttccagaatc cttgtcagat tctaatacatt gctttataat tatagttata ctcattggatt	2280
tgtagttgag tatgaaaata ttttttaatg cattttatga cttgccaatt gattgacaac	2340
atgcatcaat cgacctgcag ccactcgaag cggccgcgtt caagcttgag ctcaggattt	2400
agcagcattc cagattgggt tcaatcaaca aggtacgagc catatcactt tattcaaatt	2460
ggtatcgcca aaaccaagaa ggaactccca tcctcaaagg tttgtaagga agaattctca	2520
gtccaaaagcc tcaacaaggt cagggtagag agtctccaaa ccattagcca aaagctacag	2580
gagatcaatg aagaatcttc aatcaaagta aactactgtt ccagcacatg catcatggtc	2640
agtaagtttc agaaaaagac atccaccgaa gacttaaagt tagtgggcat ctttgaaagt	2700
aatcttgtca acatcgagca gctggcttgt ggggaccaga caaaaaagga atgggtgcaga	2760
attgttaggc gcacctacca aaagcatctt tgcctttatt gcaaagataa agcagattcc	2820
tctagtacaa gtggggaaca aaataacgtg gaaaagagct gtcctgacag cccactcact	2880
aatgcgtatg acgaacgcag tgacgaccac aaaagaattc cctctatata agaaggcatt	2940
cattcccatt tgaaggatca tcagatactg aaccaatcct tctagaagat ctccacaatg	3000
gcttcctcta tgctctcttc cgctactatg gttgcctctc cggctcaggc cactatggtc	3060
gctcctttca acggacttaa gtcctccgct gccttcccag ccacccgcaa ggctaacaac	3120
gacattactt ccatcacaag caacggcgga agagttaact gcatgcaggt gtggcctccg	3180
attggaaaga agaagtttga gactctctct taccttctctg accttaccga ttccggtggt	3240
cgcgtcaact gcatgcaggc catggctaag atttttgatt tcgtaaaacc tggcgtaatc	3300
actggtgatg acgtacagaa agttttccag gtagcaaaag aaaacaactt cgactgcca	3360
gcagtaaaact gcgtcggtac tgactccatc aacgccgtac tggaaaccgc tgctaaagtt	3420
aaagcgccgg ttatcgttca gttctccaac ggtggtgctt cttttatcgc tggtaaaggc	3480
gtgaaatctg acgttccgca gggtgctgct atcctgggcg cgatctctgg tgcgcatcac	3540
gttcaccaga tggtgaaca ttatgggtgt cgggttatcc tgcacactga ccactgcgcg	3600
aagaaaactgc tgccgtggat cgacggctctg ttggacgcgg gtgaaaaaca cttcgcagct	3660
accggtgaagc cgctgttctc ttctcacatg atcgacctgt ctgaagaatc tctgcaagag	3720
aacatcgaaa tctgctctaa atacctggag cgcattgtcca aaatcggcat gactctggaa	3780
atcgaactgg gttgcaccgg tggatgaagaa gacggcgtgg acaacagcca catggacgct	3840
tctgcactgt acaccagcc ggaagacgtt gattacgcat acaccgaact gagcaaaatc	3900

agcccgcggtt tcaccatcgc agcgtccttc ggtaacgtac acggtgttta caagccgggt	3960
aacgtgggttc tgactccgac catcctgcgt gattctcagg aatatgtttc caagaaacac	4020
aacctgccgc acaacagcct gaacttcgta ttccacgggtg gttccgggttc tactgctcag	4080
gaaatcaaag actccgtaag ctacggcgta gtaaaaatga acatcgatac cgatacccaa	4140
tgggcaacct ggggaaggcgt tctgaactac taaaagcga acgaagctta tctgcagggt	4200
cagctgggta acccgaaagg cgaagatcag ccgaacaaga aatactacga tccgcgcgta	4260
tggctgcgtg ccggtcagac ttcgatgatc gctcgtctgg agaaagcatt ccaggaactg	4320
aacgcgatcg acgttctgta agagctcgggt accggatcca attcccgatc gttcaaacat	4380
ttggcaataa agtttcttaa gattgaatcc tgttgccgggt cttgcgatga ttatcatata	4440
atttctgttg aattacgtta agcatgtaat aattaacatg taatgcatga cgttatattat	4500
gagatgggtt tttatgatta gagtcccgca attatacatt taatacgca tagaaaacaa	4560
aatatagcgc gaaaactagg ataaattatc gcgcgcgggtg tcatctatgt tactagatcg	4620
gggatcgatc cccgggcggc cgccactcga gtggtggccg catcgatcgt gaagtttctc	4680
atctaagccc ccatttgac gtgaatgtag acacgtcgaa ataaagattt ccgaattaga	4740
ataatttggt tattgctttc gcctataaat acgacggatc gtaatttgct gttttatcaa	4800
aatgtacttt cattttataa taacgctgcg gacatctaca tttttgaatt gaaaaaaat	4860
tggtaattac tttttctttt tctccatatt gaccatcata ctcatgtctg atccatgtag	4920
atttcccgga catgaagcca tttaaatgt aatatatcct gccgccgctg ccgctttgca	4980
cccggtgag cttgcagtgt ggtttctacg cagaactgag ccggttaggc agataatttc	5040
cattgagaac tgagccatgt gcaccttccc cccaacacgg tgagcgacgg ggcaacggag	5100
tgatccacat gggacttttc ctagcttggc tgccattttt ggggtgaggc cgttcgcgcg	5160
gggcgccagc tggggggatg ggaggccgc gttaccggga gggttcgaga agggggggca	5220
cccccttcg gcgtgcgcgg tcacgcgcca gggcgcagcc ctggttaaaa acaaggttta	5280
taaatattgg tttaaaagca ggttaaaaga caggtttagc gtggccgaaa aacgggcgga	5340
aacccttgca aatgctggat tttctgcctg tggacagccc ctcaaagtgc aatagggtgcg	5400
cccctcatct gtcatcactc tgcccctcaa gtgtcaagga tcgcgcccct catctgtcag	5460
tagtcgcgcc cctcaagtgt caataccgca gggcacttat cccaggett gtccacatca	5520
tctgtgggaa actcgcgtaa aatcaggcgt tttcgccgat ttgcgaggct ggccagctcc	5580
acgtcgccgg ccgaaatcga gcctgcccct catctgtcaa cgccgcgccg ggtgagtcgg	5640
cccctcaagt gtcaacgtcc gcccctcatc tgtcagttag ggccaagttt tccgcgtggt	5700

atccacaacg ccggcgggccg gccgcggtgt ctcgcacacg gcttcgacgg cgtttctggc	5760
gcgtttgcag ggccatagac ggccgccagc ccagcggcga gggcaaccag cccggtgagc	5820
gtcggaaaagg gtcgatcgac cgatgccctt gagagccttc aaccagtcg gtccttccg	5880
gtgggcgcgg ggcattgacta tcgtcgccgc acttatgact gtcttcttta tcatgcaact	5940
cgtaggacag gtgccggcag cgctctgggt cattttcggc gaggaccgct ttcgctggag	6000
cgcgacgatg atcggcctgt cgcttgcggt attcggaatc ttgcacgccc tcgctcaagc	6060
cttcgtcact ggtcccgcc ccaaacgttt cggcgagaag caggccatta tcgccggcat	6120
ggcggccgac gcgctgggct acgtcttgct ggcgttcgcg acgcgaggct ggatggcctt	6180
ccccattatg attcttctcg cttccggcgg catcgggatg cccgcgttgc aggccatgct	6240
gtccaggcag gtagatgacg accatcaggg acagcttcaa ggatcgctcg cggctcttac	6300
cagcctaact tcgatcactg gaccgctgat cgtcacggcg atttatgccg cctcggcgag	6360
cacatggaac gggttggcat ggattgtagg cgccgcccta taccttgtct gcctccccgc	6420
gttgcgtcgc ggtgcatgga gccgggccac ctcgacctga atggaagccg gcggcacctc	6480
gctaacggat tcaccactcc aagaattgga gccaatcaat tcttgcgag aactgtgaat	6540
gcgcaaacca acccttgga gaacatatcc atcgcgtccg ccatctccag cagccgcacg	6600
cggcgcatct cgggcagcgt tgggtcctgg ccacgggtgc gcatgatcgt gtcctgtcg	6660
ttgaggaccc ggctaggctg gcgggggtgc cttactggtt agcagaatga atcaccgata	6720
cgcgagcgaa cgtgaagcga ctgctgctgc aaaacgtctg cgacctgagc aacaacatga	6780
atggtcttcg gtttccgtgt ttcgtaaagt ctggaaacgc ggaagtcagc gccctgcacc	6840
attatgttcc ggatctgcat cgcaggatgc tgctggctac cctgtggaac acctacatct	6900
gtattaacga agcgttgga ttgacctga gtgatttttc tctgggtccc cgcattccat	6960
accgccagtt gtttaccctc acaacgttcc agtaaccggg catgttcac atcagtaacc	7020
cgtatcgtga gcatcctctc tcgtttcatc ggtatcatta ccccatgaa cagaaattcc	7080
cccttacacg gaggcatcaa gtgaccaaac aggaaaaaac cgcccttaac atggcccgt	7140
ttatcagaag ccagacatta acgcttctgg agaaactcaa cgagctggac gcggatgaac	7200
aggcagacat ctgtgaatcg cttcacgacc acgctgatga gctttaccgc agctgcctcg	7260
cgcgtttcgg tgatgacggt gaaaacctct gacacatgca gctcccggag acggtcacag	7320
cttgtctgta agcggatgcc gggagcagac aagcccgtca gggcgcgta gcgggtgttg	7380
gcgggtgtcg gggcgagcc atgaccagc cagctagcga tagcggagtg tatactggct	7440
taactatgcg gcatcagagc agattgtact gagagtgcac catatgcgggt gtgaaatacc	7500

gcacagatgc gtaaggagaa aataccgcat caggcgctct tccgcttcct cgctcactga	7560
ctcgctgcgc tccgtcggtc ggctgcggcg agcggtatca gctcactcaa aggcggtaat	7620
acggttatcc acagaatcag gggataacgc aggaaagaac atgtgagcaa aaggccagca	7680
aaaggccagg aaccgtaaaa aggccgcgtt gctggcggtt ttccataggc tccgcccccc	7740
tgacgagcat cacaaaaatc gacgctcaag tcagaggtag cgaaaccgga caggactata	7800
aagataccag gcgtttcccc ctggaagctc cctcgtgcgc tctcctgttc cgaccctgcc	7860
gcttaccgga tacctgtccg cctttctccc ttccgggaagc gtggcggttt ctcatagctc	7920
acgctgtagg tatctcagtt cgggtgtaggt cgttcgctcc aagctgggct gtgtgcacga	7980
acccccggtt cagcccgacc gctgcgcctt atccggtaac tatcgtcttg agtccaaccc	8040
ggtaagacac gacttatcgc cactggcagc agccactggt aacaggatta gcagagcgag	8100
gtatgtaggc ggtgctacag agttcttgaa gtggtagcct aactacggct aactagaag	8160
gacagtattt ggtatctgcg ctctgctgaa gccagttacc ttccggaaaaa gagttgtag	8220
ctcttgatcc ggcaaacaaa ccaccgctgg tagcggtagt ttttttgttt gcaagcagca	8280
gattacgcgc agaaaaaaag gatctcaaga agatcctttg atcttttcta cggggtctga	8340
cgctcagtgg aacgaaaact cacgttaagg gattttggc atgagattat caaaaaggat	8400
cttcacctag atccttttaa attaaaaatg aagttttaaa tcaatctaaa gtatatatga	8460
gtaaaacttg tctgacagtt accaatgctt aatcagttag gcacctatct cagcgatctg	8520
tctatttcgt tcatccatag ttgcctgact ccccgctcgt tagataacta cgatacggga	8580
gggcttacca tctggcccca gtgctgcaat gataccgcga gaccacgct caccggctcc	8640
agatttatca gcaataaacc agccagccgg aagggccgag cgcagaagtg gtcctgcaac	8700
tttatccgcc tccatccagt ctattaattg ttgccgggaa gctagagtaa gtagttcgcc	8760
agttaatagt ttgcgcaacg ttgttgccat tgctgcaggt cgggagcaca ggatgacgcc	8820
taacaattca ttcaagccga caccgcttcg cggcgcggt taattcagga gttaaaccatc	8880
atgagggaag cggtagatcg cgaagtatcg actcaactat cagaggtagt tggcgatc	8940
gagcgccatc tcgaaccgac gttgctggcc gtacatttgt acggctccgc agtggtggc	9000
ggcctgaagc cacacagtga tattgatttg ctgggttacg tgaccgtaag gcttgatgaa	9060
acaacgcggc gagctttgat caacgacctt ttggaaactt cggcttcccc tggagagagc	9120
gagattctcc gcgctgtaga agtcaccatt gttgtgcacg acgacatcat tccgtggcgt	9180
tatccagcta agcgcgaact gcaatttga gaatggcagc gcaatgacat tcttgcaggt	9240
atcttcgagc cagccacgat cgacattgat ctggctatct tgctgacaaa agcaagagaa	9300



catagcgttg ccttggtagg tccagcggcg gaggaactct ttgatccggt tcctgaacag	9360
gatctatttg aggcgctaaa tgaaacctta acgctatgga actcgccgcc cgactgggct	9420
ggcgatgagc gaaatgtagt gcttacgttg tcccgcattht ggtacagcgc agtaaccggc	9480
aaaatcgcg cgaaggatgt cgctgccgac tgggcaatgg agcgccctgcc ggcccagtat	9540
cagcccgtca tacttgaagc taggcaggct tatcttggac aagaagatcg cttggcctcg	9600
cgcgagatc agttggaaga atttgttcac tacgtgaaag gcgagatcac caaggtagtc	9660
ggcaaataat gtctaacaat tcgttcaagc cgacgccgct tcgcggcgcg gcttaactca	9720
agcgtagat gctgcaggca tcgtggtgtc acgctcgtcg tttggtatgg cttcattcag	9780
ctccggttcc caacgatcaa ggcgagttac atgatcccc atgttgtgca aaaaagcgg	9840
tagctccttc ggtcctccga tcgaggattt ttcggcgctg cgctacgtcc gcaccgctt	9900
gagggatcaa gccacagcag cccactcgac ctctagccga cccagacgag ccaagggatc	9960
tttttgaat gctgctccgt cgtcaggctt tccgacgtt gggtggttga acagaagtca	10020
ttatcgtacg gaatgccaag cactcccag ggaaccctg tggttggcat gcacatacaa	10080
atggacgaac ggataaacct tttcacgccc ttttaaatat ccgttattct aataaacgct	10140
cttttctctt aggtttaccc gccaatatat cctgtcaaac actgatagtt taaactgaag	10200
gcgggaaacg acaatctgat ccccatcaag cttgagctca ggatttagca gcattccaga	10260
ttgggttcaa tcaacaaggt acgagccata tcactttatt caaattggta tcgccaaaac	10320
caagaaggaa ctccatcct caaaggtttg taaggaagaa ttctcagtcc aaagcctcaa	10380
caaggtcagg gtacagagtc tccaaaccat tagccaaaag ctacaggaga tcaatgaaga	10440
atcttcaatc aaagtaaact actgttccag cacatgcac atggtcagta agtttcagaa	10500
aaagacatcc accgaagact taaagttagt gggcatcttt gaaagtaatc ttgtcaacat	10560
cgagcagctg gcttgtgggg accagacaaa aaaggaatgg tgcagaattg ttaggcgcac	10620
ctacaaaaag catctttgcc tttattgcaa agataaagca gattcctcta gtacaagtgg	10680
ggaacaaaat aacgtggaaa agagctgtcc tgacagccca ctactaatg cgtatgacga	10740
acgcagtgac gaccacaaa gaattccctc tatataagaa ggcattcatt cccatttgaa	10800
ggatcatcag atactgaacc aatccttcta gaagatctaa gcttat	10846

<210> 6  
 <211> 10900  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> P-FMV/CTP2/fda/NO3'

<400> 6

cgataagctt gatgtaattg gaggaagatc aaaattttca atccccattc ttcgattgct	60
tcaattgaag tttctccgat ggcgcaagtt agcagaatct gcaatgggtg gcagaaccca	120
tctcttatct ccaatctctc gaaatccagt caacgcaa atctcccttattc ggtttctctg	180
aagacgcagc agcatccacg agcttatccg atttcgtcgt cgtggggatt gaagaagagt	240
gggatgacgt taattggctc tgagcttcgt cctcttaagg tcatgtcttc tgtttccacg	300
gcgtgcatgc ttcacgggtg aagcagccgt ccagcaactg ctcgtaagtc ctctgggtctt	360
tctggaaccg tccgtattcc aggtgacaag tctatctccc acaggtcctt catgtttgga	420
gggtctcgcta gcggtgaaac tcgtatcacc ggtcttttgg aaggtgaaga tgttatcaac	480
actggtaagg ctatgcaagc tatgggtgcc agaatccgta aggaagggtga tacttggatc	540
attgatggtg ttggtaacgg tggactcctt gctcctgagg ctccctctcga tttcggtaac	600
gctgcaactg gttgccgttt gactatgggt cttgttggtg tttacgattt cgatagcact	660
ttcattggtg acgcttctct cactaagcgt ccaatgggtc gtgtgttgaa cccacttcgc	720
gaaatgggtg tgcaggtgaa gtctgaagac ggtgatcgtc ttccagttac cttgcgtgga	780
ccaaagactc caacgccaat cacctacagg gtacctatgg ctcccgctca agtgaagtcc	840
gctgttctgc ttgctgggtc caacacccca ggtatcacca ctgttatcga gccaatcatg	900
actcgtgacc aactgaaaa gatgcttcaa ggttttggtg ctaaccttac cgttgagact	960
gatgctgacg gtgtgcgtac catccgtctt gaaggctcgt gtaagctcac cgggtcaagtg	1020
attgatgttc caggatgatc atcctctact gctttcccat tggttgctgc cttgcttggt	1080
ccaggttccg acgtcaccat ccttaacgtt ttgatgaacc caaccgtac tgggtctcatc	1140
ttgactctgc aggaaatggg tgccgacatc gaagtgatca acccacgtct tgctgggtgga	1200
gaagacgtgg ctgacttgcg tgttcgttct tctactttga aggggtgttac tgttccagaa	1260
gaccgtgctc cttctatgat cgacgagtat ccaattctcg ctgttgcagc tgcattcgt	1320
gaagggtgcta ccgttatgaa cggtttgga gaactccgtg ttaaggaaag cgaccgtctt	1380
tctgctgtcg caaacgggtc caagctcaac ggtgttgatt gcgatgaagg tgagacttct	1440
ctcgtcgtgc gtggtcgtcc tgacggtaag ggtctcggta acgcttctgg agcagctgtc	1500
gctaccacac togatcaccg tatoctatg agcttcctcg ttatgggtct cgtttctgaa	1560
aacctgtta ctgttgatga tgctactatg atcgtacta gcttcccaga gttcatggat	1620
ttgatggctg gtcttgagc taagatcgaa ctctccgaca ctaaggctgc ttgatgagct	1680
caagaattcg agctcggtag cggatccagc tttcgttcgt atcatcggtt tcgacaacgt	1740
tcgtcaagtt caatgcatca gtttcattgc gcacacacca gaatcctact gagttcgagt	1800

attatggcat tgggaaaact gtttttcttg taccatttgt tgtgcttgta atttactgtg	1860
ttttttattc ggttttcgct atcgaactgt gaaatggaaa tggatggaga agagttaatg	1920
aatgatatgg tccttttgtt cattctcaaa ttaatattat ttgttttttc tcttatttgt	1980
tgtgtgttga atttgaaatt ataagagata tgcaaacatt ttgttttgag taaaaatgtg	2040
tcaaatacgtg gcctctaata accgaagtta atatgaggag taaaacactt gtagttgtac	2100
cattatgctt attcactagg caacaaatat attttcagac ctagaaaagc tgcaaatgtt	2160
actgaataca agtatgtcct cttgtgtttt agacatttat gaactttcct ttatgtaatt	2220
ttccagaatc cttgtcagat tctaatacatt gctttataat tatagttata ctcatggatt	2280
tgtagttgag tatgaaaata ttttttaatg catttttatga cttgccaatt gattgacaac	2340
atgcatcaat cgacctgcag ccaactcgaag cggccgcgtt caagcttgag ctcaggattt	2400
agcagcattc cagattgggt tcaatcaaca aggtacgagc catatcactt tattcaaatt	2460
ggtatcgcca aaaccaagaa ggaactccca tcctcaaagg tttgtaagga agaattctca	2520
gtccaaagcc tcaacaaggt cagggtagag agtctccaaa ccattagcca aaagctacag	2580
gagatcaatg aagaatcttc aatcaaagta aactactgtt ccagcacatg catcatggtc	2640
agtaagtttc agaaaaagac atccaccgaa gacttaaagt tagtgggcat ctttgaaagt	2700
aatcttgtca acatcgagca gctggcttgt ggggaccaga caaaaaagga atgggtgcaga	2760
attgttaggc gcacctacca aaagcatctt tgcctttatt gcaaagataa agcagattcc	2820
tctagtacaa gtggggaaca aaataacgtg gaaaagagct gtcctgacag cccactcact	2880
aatgcgtatg acgaacgcag tgacgaccac aaaagaattc cctctatata agaaggcatt	2940
cattcccatt tgaaggatca tcagatactg aaccaatcct tctagaagat ctaagcttat	3000
cgataagctt gatgtaattg gaggaagatc aaaattttca atccccattc ttcgattgct	3060
tcaattgaag tttctccgat ggcgcaagtt agcagaatct gcaatgggtg gcagaaccca	3120
tctcttatct ccaatctctc gaaatccagt caacgcaaatt ctccttatc ggtttctctg	3180
aagacgcagc agcatccacg agcttatccg atttcgtcgt cgtggggatt gaagaagagt	3240
gggatgacgt taattggctc tgagcttcgt cctcttaagg tcatgtcttc tgtttccacg	3300
gcgtgcatgc aggccatggc taagattttt gatttcgtaa aacctggcgt aatcactggg	3360
gatgacgtac agaaagtttt ccaggtagca aaagaaaaca acttcgcact gccagcagta	3420
aactgcgtcg gtactgactc catcaacgcc gtactggaaa ccgctgctaa agttaagcg	3480
ccggttatcg ttcagttctc caacgggtggg gcttccttta tcgctggtaa aggcgtgaaa	3540
tctgacgttc cgcaggggtg tgctatcctg ggcgcgatct ctgggtgcgca tcacgttcac	3600

cagatggctg aacattatgg tgttccggtt atcctgcaca ctgaccactg cgccaagaaa	3660
ctgctgccgt ggatcgacgg tctgttggac gcgggtgaaa aacacttcgc agctaccggt	3720
aagccgctgt tctcttctca catgatcgac ctgtctgaag aatctctgca agagaacatc	3780
gaaatctgct ctaaatacct ggagcgcgcatg tccaaaatcg gcatgactct ggaaatcgaa	3840
ctgggttgca ccggtggtga agaagacggc gtggacaaca gccacatgga cgcttctgca	3900
ctgtacaccc agccggaaga cggtgattac gcatacaccg aactgagcaa aatcagcccg	3960
cgtttcacca tcgcagcgtc cttcggtaac gtacacgggtg tttacaagcc gggtaacgtg	4020
gttctgactc cgaccatcct gcgtgattct caggaatatg tttccaagaa acacaacctg	4080
ccgcacaaca gcctgaactt cgtattccac ggtggttccg gttctactgc tcaggaaatc	4140
aaagactccg taagctacgg cgtagtaaaa atgaacatcg ataccgatac ccaatgggca	4200
acctgggaag gcgttctgaa ctactacaaa gcgaacgaag cttatctgca gggtcagctg	4260
ggtaaccgga aaggcgaaga tcagccgaac aagaaatact acgatccgcg cgtatggctg	4320
cgtgccggtc agacttcgat gatcgctcgt ctggagaaaag cattccagga actgaacgcg	4380
atcgacgttc tgtaagagct cggtagccgga tccaattccc gatcgttcaa acatttggca	4440
ataaagtttc ttaagattga atcctgttgc cggctcttgcg atgattatca tataatttct	4500
gttgaattac gttaagcatg taataattaa catgtaatgc atgacgttat ttatgagatg	4560
ggtttttatg attagagtcc cgcaattata catttaatac gcgatagaaa acaaaaatata	4620
gcgcgcaaac taggataaat tatcgcgcgc ggtgtcatct atgttactag atcggggatc	4680
gatccccggg cggccgccac tcgagtgggtg gccgcacga tcgtgaagtt tctcatctaa	4740
gccccattt ggacgtgaat gtagacacgt cgaaataaag atttccgaat tagaataatt	4800
tgtttattgc tttcgctat aaatacgacg gatcgtaatt tgctgtttta tcaaaatgta	4860
ctttcathtt ataataacgc tgcggacatc tacatttttg aattgaaaaa aaattggtaa	4920
ttactctttc tttttctcca tattgaccat catactcatt gctgatccat gtagatttcc	4980
cggacatgaa gccatttaca attgaatata tcctgccgcc gctgccgctt tgcacccggt	5040
ggagcttgca tgttggtttc tacgcagaac tgagccgggtt aggcagataa tttccattga	5100
gaactgagcc atgtgcacct tcccccaac acggtgagcg acggggcaac ggagtgatcc	5160
acatgggact tttcctagct tggtgccat ttttgggggtg aggccgttcg cgcggggcgc	5220
cagctggggg gatgggaggc ccgcgttacc gggagggttc gagaaggggg ggcaccccc	5280
ttcggcgtgc gcggtcacgc gccagggcgc agccctggtt aaaaacaagg tttataaata	5340
ttggtttaaa agcagggttaa aagacagggt agcgggtggcc gaaaaacggg cggaaccct	5400

tgcaaatgct ggattttctg cctgtggaca gcccctcaaa tgtcaatagg tgcgccctc	5460
atctgtcatc actctgcccc tcaagtgtca aggatcgcg ccctcatctg tcagtagtcg	5520
cggccctcaa gtgtcaatac cgcagggcac ttatccccag gcttgtccac atcatctgtg	5580
ggaaactcgc gtaaaatcag gcgttttcgc cgatttgca ggctggccag ctccacgtcg	5640
ccggccgaaa tcgagcctgc ccctcatctg tcaacgccgc gccgggtgag tcggcccctc	5700
aagtgtcaac gtccgcccct catctgtcag tgagggccaa gttttccgcg tggtatccac	5760
aacgccggcg gccggccgcg gtgtctcgca cacggcttcg acggcgtttc tggcgcgttt	5820
gcagggccat agacggccgc cagcccagcg gcgagggcaa ccagcccggg gagcgtcgga	5880
aagggtcgat cgaccgatgc ccttgagagc cttcaaccga gtcagctcct tccggtgggc	5940
gcggggcatg actatcgctg ccgcacttat gactgtcttc tttatcatgc aactcgtagg	6000
acaggtgccg gcagcgtctt gggtcatttt cggcgaggac cgctttcgct ggagcgcgac	6060
gatgatcggc ctgtcgcttg cgtattcgg aatcttgca gccctcgctc aagccttcgt	6120
cactggtccc gccaccaaac gtttcggcga gaagcaggcc attatcgccg gcatggcggc	6180
cgacgcgctg ggctacgtct tgctggcggt cgcgacgca ggctggatgg ccttccccat	6240
tatgattctt ctgcttccg gcggcatcgg gatgccgcg ttgcaggcca tgctgtccag	6300
gcaggtagat gacgaccatc agggacagct tcaaggatcg ctgcggctc ttaccagcct	6360
aacttcgatc actggaccgc tgatcgtcac ggcgatttat gccgcctcgg cgagcacatg	6420
gaacgggttg gcatggattg taggcgccgc cctatacctt gtctgcctcc ccgcgttgcg	6480
tcgcggtgca tggagccggg ccacctcgac ctgaatggaa gccggcggca cctcgctaac	6540
ggattcacca ctccaagaat tggagccaat caattcttgc ggagaactgt gaatgcgcaa	6600
accaaccctt ggcagaacat atccatcgcg tccgccatct ccagcagccg cacgcggcgc	6660
atctcgggca gcgttgggtc ctggccacgg gtgcgcatga tcgtgctcct gtcgttgagg	6720
accggttag gctggcggg ttgccttact ggtagcaga atgaatcacc gatacgcgag	6780
cgaacgtgaa gcgactgctg ctgcaaaacg tctgcgacct gagcaacaac atgaatggtc	6840
ttcggtttcc gtgtttcgta aagtctggaa acgcggaagt cagcgccctg caccattatg	6900
ttccggatct gcatcgagg atgctgctgg ctaccctgtg gaacacctac atctgtatta	6960
acgaagcgct ggcattgacc ctgagtgatt tttctctggt ccgcccgcac ccataaccgc	7020
agttgtttac cctcacaacg ttccagtaac cgggcatggt catcatcagt aaccgtatc	7080
gtgagcatcc tctctcgttt catcggtatc attaccccca tgaacagaaa ttccccctta	7140
cacggaggca tcaagtgacc aaacaggaaa aaaccgccct taacatggcc cgctttatca	7200

gaagccagac	attaacgctt	ctggagaaac	tcaacgagct	ggacgcggat	gaacaggcag	7260
acatctgtga	atcgcttcac	gaccacgctg	atgagcttta	ccgcagctgc	ctcgcgcggtt	7320
tcggtgatga	cggtgaaaac	ctctgacaca	tgcagctccc	ggagacggtc	acagcttgtc	7380
tgtaagcgga	tgccgggagc	agacaagccc	gtcagggcgc	gtcagcgggt	gttggcgggt	7440
gtcggggcgc	agccatgacc	cagtcacgta	gcgatagcgg	agtgtatact	ggcttaacta	7500
tgccggcatca	gagcagattg	tactgagagt	gcaccatatg	cgggtgtgaaa	taccgcacag	7560
atgcgtaagg	agaaaatacc	gcatacaggcg	ctcttccgct	tcctcgctca	ctgactcgct	7620
gcgctcggtc	gttcggctgc	ggcgagcgggt	atcagctcac	tcaaaggcgg	taatacgggt	7680
atccacagaa	tcaggggata	acgcaggaaa	gaacatgtga	gcaaaaggcc	agcaaaaggc	7740
caggaaccgt	aaaaaggccg	cggtgctggc	gtttttccat	aggctccgcc	cccctgacga	7800
gcatacacia	aatcgacgct	caagtcagag	gtggcgaaac	ccgacaggac	tataaagata	7860
ccaggcggtt	ccccctggaa	gtccctcgct	gcgctctcct	gttccgaccc	tgccgcttac	7920
cggatacctg	tccgcctttc	tcccttcggg	aagcgtggcg	ctttctcata	gctcacgctg	7980
taggtatctc	agttcggtgt	aggtcgttcg	ctccaagctg	ggctgtgtgc	acgaaccccc	8040
cgttcagccc	gaccgctgcg	ccttatccgg	taactatcgt	cttgagtcca	acccggtaag	8100
acacgactta	tcgccactgg	cagcagccac	tggtaacagg	attagcagag	cgaggatatgt	8160
aggcgggtgct	acagagttct	tgaagtgggtg	gcctaactac	ggctacacta	gaaggacagt	8220
atttggtatc	tgcgctctgc	tgaagccagt	taccttcgga	aaaagagttg	gtagctcttg	8280
atccggcaaa	caaaccaccg	ctggtagcgg	tggttttttt	gtttgcaagc	agcagattac	8340
gcgcagaaaa	aaaggatctc	aagaagatcc	tttgatcttt	tctacgggggt	ctgacgctca	8400
gtggaacgaa	aactcacggt	aagggatttt	ggtcatgaga	ttatcaaaaa	ggatcttcac	8460
ctagatcctt	ttaaattaaa	aatgaagttt	taaatcaatc	taaagtatat	atgagtaaac	8520
ttggtctgac	agttaccaat	gcttaatcag	tgaggcacct	atctcagcga	tctgtctatt	8580
tcgttcatcc	atagttgcct	gactccccgt	cgtgtagata	actacgatac	gggagggcctt	8640
accatctggc	cccagtgtctg	caatgatacc	gcgagaccca	cgctcaccgg	ctccagattt	8700
atcagcaata	aaccagccag	ccggaagggc	cgagcgcaga	agtggtcctg	caactttatc	8760
cgctccatc	cagtctatta	attgttgccg	ggaagctaga	gtaagtagtt	cgccagttaa	8820
tagtttgccg	aacgttggtg	ccattgctgc	aggtcgggag	cacaggatga	cgctaataaa	8880
ttcattcaag	ccgacaccgc	ttcgcggcgc	ggcttaattc	aggagttaaa	catcatgagg	8940
gaagcgggtga	tcgccgaagt	atcgactcaa	ctatcagagg	tagttggcgt	catcgagcgc	9000

catctcgaac	cgacgttgct	ggccgtacat	ttgtacggct	ccgcagtgga	tggcggcctg	9060
aagccacaca	gtgatattga	tttgctggtt	acggtgaccg	taaggcttga	tgaaacaacg	9120
cggcgagctt	tgatcaacga	ccttttgga	acttcggctt	cccctggaga	gagcgagatt	9180
ctccgcgctg	tagaagtcac	cattgtttgt	cacgacgaca	tcattccgtg	gcgttatcca	9240
gctaagcgcg	aactgcaatt	tggagaatgg	cagcgcaatg	acattcttgc	aggtatcttc	9300
gagccagcca	cgatcgacat	tgatctggct	atcttgctga	caaaagcaag	agaacatagc	9360
gttgcccttg	taggtccagc	ggcggaggaa	ctctttgatc	cggttcctga	acaggatcta	9420
tttgaggcgc	taaatgaaac	cttaacgcta	tggaaactcg	cgcccgaactg	ggctggcgat	9480
gagcgaaatg	tagtgcttac	gttgtcccgc	atgttggtaca	gcgcagtaac	cggcaaaatc	9540
gcgccgaagg	atgtcgctgc	cgactgggca	atggagcgcc	tgccggccca	gtatcagccc	9600
gtcatacttg	aagctaggca	ggcttatctt	ggacaagaag	atcgcttggc	ctcgcgcgca	9660
gatcagttgg	aagaatttgt	tcactacgtg	aaaggcgaga	tcaccaaggt	agtcggcaaa	9720
taatgtctaa	caattcgctt	aagccgacgc	cgcttcgcgg	cgcggtctaa	ctcaagcggt	9780
agatgctgca	ggcatcgctg	tgtcacgctc	gtcgtttggt	atggcttcat	tcagctccgg	9840
ttcccaacga	tcaaggcgag	ttacatgatc	ccccatgttg	tgcaaaaaag	cggttagctc	9900
cttcggctct	ccgatcgagg	atttttcggc	gctgcgctac	gtccgcaccg	cgttgaggga	9960
tcaagccaca	gcagcccact	cgacctctag	ccgaccacga	cgagccaagg	gatctttttg	10020
gaatgctgct	cgtcgctcag	gctttccgac	gtttgggtgg	ttgaacagaa	gtcattatcg	10080
tacggaatgc	caagcactcc	cgaggggaac	cctgtgggtg	gcatgcacat	acaaatggac	10140
gaacggataa	accttttcac	gcccttttaa	atatccgtta	ttctaataaa	cgctcttttc	10200
tcttaggttt	acccgccaat	atatcctgtc	aaacactgat	agtttaaact	gaaggcggga	10260
aacgacaatc	tgatcccat	caagcttgag	ctcaggatct	agcagcattc	cagattgggt	10320
tcaatcaaca	aggtacgagc	catatcactt	tattcaaatt	ggtatcgcca	aaaccaagaa	10380
ggaactccca	tcctcaaagg	tttgtaagga	agaattctca	gtccaaagcc	tcaacaaggt	10440
caggggtacag	agtctccaaa	ccattagcca	aaagctacag	gagatcaatg	aagaatcttc	10500
aatcaaagta	aactactgtt	ccagcacatg	catcatggtc	agtaagtttc	agaaaaagac	10560
atccaccgaa	gacttaaagt	tagtgggcat	ctttgaaagt	aatcttgtca	acatcgagca	10620
gctggcttgt	ggggaccaga	caaaaaagga	atggtgcaga	attgttaggc	gcacctacca	10680
aaagcatctt	tgcttttatt	gcaaagataa	agcagattcc	tctagtacaa	gtggggaaca	10740
aaataacgtg	gaaaagagct	gtcctgacag	cccactcact	aatgcgtatg	acgaacgcag	10800

tgacgaccac aaaagaattc cctctatata agaaggcatt cattcccatt tgaaggatca 10860  
tcagatactg aaccaatcct tctagaagat ctaagcttat 10900